10 CFR 50.73

Progress Energy

Serial: RNP-RA/10-0127

JAN 17 2011

Attn: Document Control Desk
United States Nuclear Regulatory Commission
Washington, DC 20555-0001

H. B. ROBINSON STEAM ELECTRIC PLANT, UNIT NO. 2
DOCKET NO. 50-261/LICENSE NO. DPR-23

LICENSEE EVENT REPORT NO. 2010-007-01
REACTOR TRIP DUE TO A DEGRADED CONNECTION ON A CIRCUIT BOARD IN THE ELECTRO-HYDRAULIC CONTROL CABINET

Ladies and Gentlemen:

The attached Licensee Event Report (LER) is provided to include a planned corrective action for LER 2010-007-00, which was submitted to the Nuclear Regulatory Commission on November 5, 2010. Should you have any questions regarding this matter, please contact Mr. C. A. Castell at (843) 857-1626.

Sincerely,

Thomas S. Cosgrove
Plant General Manager
H. B. Robinson Steam Electric Plant, Unit No. 2

TSC/psf

Attachment

c: L. A. Reyes, NRC, Region II
B. L. Mozafari, NRC, NRR
NRC Resident Inspector

Progress Energy Carolinas, Inc.
Robinson Nuclear Plant
3581 West Entrance Road
Hartsville, SC 29550

IE22
NRR

NRC FORM 366 (10-2010) U.S. NUCLEAR REGULATORY COMMISSION

APPROVED BY OMB: NO. 3150-0104 EXPIRES 10/31/2013

LICENSEE EVENT REPORT (LER)

(See reverse for required number of digits/characters for each block)

1. FACILITY NAME	2. DOCKET NUMBER	3. PAGE
H. B. Robinson Steam Electric Plant, Unit No. 2	05000261	1 OF 3

4. TITLE

Reactor Trip Due to a Degraded Connection on a Circuit Board in the Electro-Hydraulic Control Cabinet

5. EVENT DATE			6. LER NUMBER			7. REPORT DATE			8. OTHER FACILITIES INVOLVED	
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REV NO	MONTH	DAY	YEAR	FACILITY NAME	DOCKET NUMBER
										05000
09	09	2010	2010	- 007	- 01	1	17	2011	FACILITY NAME	DOCKET NUMBER
										05000

9. OPERATING MODE

1

10. POWER LEVEL

100%

11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check all that apply)

☐ 20.2201(b)	☐ 20.2203(a)(3)(i)	☐ 50.73(a)(2)(i)(C)	☐ 50.73(a)(2)(vii)	
☐ 20.2201(d)	☐ 20.2203(a)(3)(ii)	☐ 50.73(a)(2)(ii)(A)	☐ 50.73(a)(2)(viii)(A)	
☐ 20.2203(a)(1)	☐ 20.2203(a)(4)	☐ 50.73(a)(2)(ii)(B)	☐ 50.73(a)(2)(viii)(B)	
☐ 20.2203(a)(2)(i)	☐ 50.36(c)(1)(i)(A)	☐ 50.73(a)(2)(iii)	☐ 50.73(a)(2)(ix)(A)	
☐ 20.2203(a)(2)(ii)	☐ 50.36(c)(1)(ii)(A)	☒ 50.73(a)(2)(iv)(A)	☐ 50.73(a)(2)(x)	
☐ 20.2203(a)(2)(iii)	☐ 50.36(c)(2)	☐ 50.73(a)(2)(v)(A)	☐ 73.71(a)(4)	
☐ 20.2203(a)(2)(iv)	☐ 50.46(a)(3)(ii)	☐ 50.73(a)(2)(v)(B)	☐ 73.71(a)(5)	
☐ 20.2203(a)(2)(v)	☐ 50.73(a)(2)(i)(A)	☐ 50.73(a)(2)(v)(C)	☐ OTHER Specify in Abstract below or in NRC Form 366A	
☐ 20.2203(a)(2)(vi)	☐ 50.73(a)(2)(i)(B)	☐ 50.73(a)(2)(v)(D)		

12. LICENSEE CONTACT FOR THIS LER

FACILITY NAME	TELEPHONE NUMBER (Include Area Code)
Pamela Fergen	843-857-5314

13. COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT

CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO EPIX		CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO EPIX
X	JJ	CBD	Siemens	Y						

14. SUPPLEMENTAL REPORT EXPECTED

☐ YES (If yes, complete 15. EXPECTED SUBMISSION DATE) ☒ NO

15. EXPECTED SUBMISSION DATE	MONTH	DAY	YEAR

ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines)

At 1437 hours EDT on September 9, 2010, with H. B. Robinson Steam Electric Plant (HBRSEP), Unit No. 2, in Mode 1 at approximately 100% power, an automatic reactor trip occurred. The reactor trip signal was based on the Overtemperature ΔT (OTΔT) reactor protection function. Due to the plant transient condition, the three steam generator Power Operated Relief Valves (PORVs) opened and one pressurizer PORV cycled momentarily.

This event is being investigated using the HBRSEP, Unit No. 2, Corrective Action Program (CAP) and is being documented in Nuclear Condition Report (NCR) 420936. During investigation of the cause of the transient, a degraded connection on a circuit board (1A08H2) in the electro-hydraulic (EH) control cabinet was found. It has been concluded that this condition caused the loss of the governor valve common signal to the four turbine governor valves. Closure of the governor valves caused pressure and temperature in the Reactor Coolant System (RCS) to change. This resulted in the opening of a pressurizer PORV and the OTΔT reactor protection function initiating a reactor trip. The completed corrective action was replacement of the circuit board (1A08H2) found with the degraded connection.

The condition described in this Licensee Event Report is reportable in accordance with 10 CFR 50.73(a)(2)(iv)(A), any event or condition that resulted in manual or automatic actuation of any of the systems listed in 10 CFR 50.73(a)(2)(iv)(B).

LICENSEE EVENT REPORT (LER)
CONTINUATION SHEET

1. FACILITY NAME	2. DOCKET	6. LER NUMBER			3. PAGE
		YEAR	SEQUENTIAL NUMBER	REV. NO.	
H. B. Robinson Steam Electric Plant, Unit No. 2	05000261	2010	- 007 -	01	2 OF 3

NARRATIVE

I. DESCRIPTION OF EVENT

At 1437 hours EDT on September 9, 2010, with H. B. Robinson Steam Electric Plant (HBRSEP), Unit No. 2, in Mode 1 at approximately 100% power, an automatic reactor trip occurred. The reactor trip signal was based on the Overtemperature ΔT (OTΔT) reactor protection function. Due to the plant transient condition, the steam generator Power Operated Relief Valves (PORVs) [AB:PCV] opened and one pressurizer PORV cycled momentarily in response to pressure changes in the steam generators [AB:SG] and pressurizer [AB:PZR]. The Auxiliary Feedwater System [BA] automatically actuated, as expected, and provided feedwater to the steam generators. The main steam safety valves [SB:PCV] did not open during the event.

II. CAUSE OF EVENT

This event is being investigated using the HBRSEP, Unit No. 2, Corrective Action Program (CAP) and is being documented in Nuclear Condition Report (NCR) 420936. During investigation of the cause of the transient, a degraded connection on a circuit board (1A08H2) in the electro-hydraulic (EH) control cabinet was found. It has been concluded that this condition caused the loss of the governor valve common signal to the four turbine governor valves. Closure of the governor valves caused pressure and temperature in the Reactor Coolant System (RCS) to change. This resulted in the opening of a pressurizer PORV and the OTΔT reactor protection function initiating a reactor trip.

III. ANALYSIS OF EVENT

The condition described in this Licensee Event Report is reportable in accordance with 10 CFR 50.73(a)(2)(iv)(A), any event or condition that resulted in manual or automatic actuation of any of the systems listed in 10 CFR 50.73(a)(2)(iv)(B).

IV. CORRECTIVE ACTIONS

Completed Corrective Actions:

- The defective circuit board (1A08H2) was replaced.

Planned Corrective Actions:

- Revise existing preventative maintenance model to require testing to validate proper circuit card seating of any EH System circuit cards that are replaced. This PM revision should include checking circuit boards for bent pins prior to installation as well as verifying all installed and surrounding circuit boards are seated properly.

LICENSEE EVENT REPORT (LER)
CONTINUATION SHEET

1. FACILITY NAME	2. DOCKET	6. LER NUMBER			3. PAGE
		YEAR	SEQUENTIAL NUMBER	REV. NO.	
H. B. Robinson Steam Electric Plant, Unit No. 2	05000261	2010	- 007 -	01	3 OF 3

NARRATIVE

V. ADDITIONAL INFORMATION

Previous Similar Events:

Licensee Event Report 2006-001-00

At 0247 hours on October 25, 2006, with H. B. Robinson Steam Electric Plant (HBRSEP), Unit No. 2, in Mode 1 at 100% power, control room operators responded to alarms received for steam flow greater than feed flow on all three steam generators. The control room operators diagnosed the event as a 100% load rejection and initiated a manual reactor trip at 0248 hours, 68.8 seconds following the start of the event. The root cause of this event was failure of a turbine governor valve electro-hydraulic control system card.

While equipment failures were identified as the cause of this event, no similar component failures were identified.